IN THE CLAIMS:

1. (Currently Amended) An inspection method for detecting a defect of a specimen by using an electron beam, said method comprising the steps of:

determining a beam current of the electron beam to be at least 100 nA based on a signal to noise ratio of an image of the defect and an inspection time;

deflecting said electron beam set to at least 100 nA beam current by taking a crossover as a fulcrum during a flyback period of a scanning operation;

applying a retarding voltage for decelerating the electron beam to said specimen; and

changing the magnitude of said retarding voltage based on the nature of said specimen.

2-3 (Canceled)

4. (Previously Amended) An inspection method using an electron beam according to claim 1, further comprising the steps of:

scanning said specimen by using said electron beam; and

detecting charged particles emanating from said specimen and converting said detected charged particles into an electrical signal.

5. (Previously Presented) An inspection method using an electron beam according to claim 4, further comprising the steps of:

storing picture information conveyed by said electrical signal;

comparing a picture with another by using said stored picture information; and

detecting a defect of said specimen.

6. (Previously Presented) In inspection method using an electron beam according to claim 5, further comprising the step of:

continuously moving said specimen during said scanning.

7. (Previously Presented) An inspection method using an electron beam according to claim 4, wherein there are generated a deflection electric field for deflecting said charged particles in predetermined direction and a deflection magnetic field for deflecting said charged particles in said direction as well as for canceling deflection of said electron beam by said deflection electric field.

8. (Previously Presented) An inspection method using an electron beam according to claim 4 wherein said charged particles are radiated to a secondary-electron generating substance to generate secondary electrons from said secondary-electron generating substance.

9. (Currently Amended) An inspection apparatus for detecting a defect of a specimen by using an electron beam, said apparatus comprising:

an electron source for drawing the electron beam, the beam current of the electron beam being determined to be at least 100 nA of beam current determined based on a signal to noise ratio of an image of the defect and an inspection time;

a convergence lens for converging said electron beam so as to form a crossover between said convergence lens and said specimen;

a deflector for deflecting said electron beam by taking a crossover as fulcrum during a flyback period of a scanning operation; and

a power supply applying a retarding voltage for decelerating the electron beam to the specimen, wherein said power supply applies a magnitude of said retarding voltage to said specimen based on the nature of said specimen.

10. (Previously Presented) An inspection apparatus using an electron beam according to claim 9, further comprising:

a detector for detecting charged particles emanating from said specimen and converting said detected charged particles into an electrical signal.

11. (Previously Amended) An inspection apparatus using an electron beam according to claim 10, further comprising:

a storage means for storing picture information conveyed by said electrical signal; and

a comparator for comparing pictures by using said picture information.

12. (Previously Presented) An inspection apparatus using an electron beam according to claim 10, further comprising an electron beam deflector for generating a deflection electric field for deflecting said charged particles in a predetermined direction and a deflection magnetic field for deflecting said charged particles in said direction as well as for canceling deflection of said electron beam by said deflection electric field.

13. (Previously Presented) An inspection apparatus using an electron beam according to claim 10 wherein said charged particles are radiated to a secondary-electron generating substance employed therein to generate secondary electrons from said secondary-electron generating substance.

14-15. (Canceled)

16. (Previously Amended) An inspection apparatus using an electron beam according to claim 9, wherein an electrode set at a positive electric potential with respect to said deceleration voltage is provided between said specimen and said charged particle detector.